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Environmental Benefits of Reoperation, Relicensing, Decommissioning and Recapture

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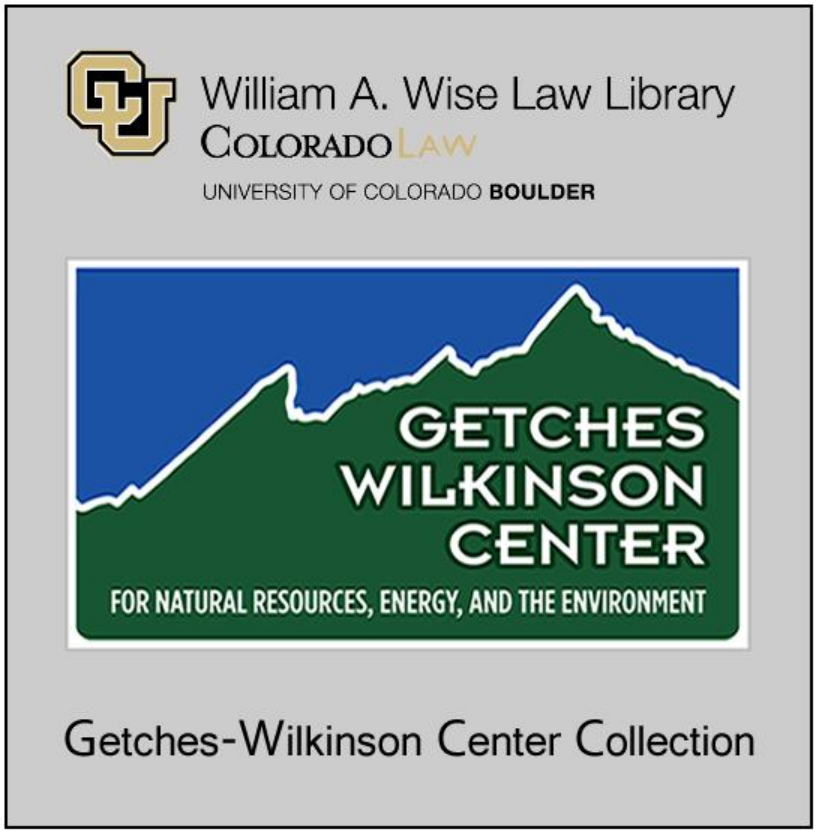

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ENVIRONMENTAL BENEFITS OF REOPERATION, RELICENSING, DECOMMISSIONING AND RECAPTURE

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DAMS: WATER AND POWER IN THE NEW WEST

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Boulder, Colorado
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I. CURRENT LAWS AND POLICIES

A. Any hydropower project which is located on navigable waters, or which otherwise affects the interests of interstate or foreign commerce, must be licensed by FERC before construction, operation, or maintenance. The two exceptions are: ownership by a federal agency; or lawful completion before the enactment of the Federal Power Act. (16 U.S.C. § 817).

B. Each hydropower license has a fixed term, not to exceed 50 years. (16 U.S.C. § 799). The original licenses for more than 500 projects will expire between 1993 and early in the next century. Upon expiration of an original license, FERC has four options: a new license; a non-power license; decommissioning; or a recommendation to Congress for federal take-over.

C. A new license may issue only on FERC's finding that the project is best adapted to a comprehensive plan for improving or developing the affected waters. (16 U.S.C. § 803(a)(1)).

1. An original license does not create an entitlement to issuance of a new license. (Confederated Tribes and Bands of the Yakima Indian Nation et al. v. Federal Energy Regulatory Commission et al., 746 F.2d 466, 476 (1983)). FERC must issue or deny a new license in light of the laws and circumstances that prevail at the time it decides the application.

2. In making its decision on a new license application, FERC must consider not only energy, but also fish, wildlife, recreation, flood control, water supply, and other beneficial uses which are in the public interest. (16 U.S.C. § 803(a)(1)).

3. Under Federal Power Act ("FPA") section 18, a license must include a fishway as prescribed by the U.S. Fish and Wildlife Service or National Marine Fisheries Service for the passage of any fish present in the project vicinity. (16 U.S.C. § 811).

4. Under FPA section 4(e), a project located on a federal reservation may receive a new license only if FERC determines that it is not inconsistent with the purposes for the reservation was established. A new license must include those conditions which the federal agency administering the reservation finds necessary for adequate protection and use of affected resources. (16 U.S.C. § 797(e)).

5. Under Clean Water Act ("CWA") section 401(a), a project may receive a new license only if the State has certified that it may be operated in compliance with water quality standards, or waived such certification. (33 U.S.C. § 401(a)(1)).

6. A new license must include other conditions based on the recommendations of the resource agencies, unless FERC finds that any such recommendation is inconsistent with the Federal Power Act. (16 U.S.C. § 803(j)).

D. FERC may deny a new license for energy generation, and issue a nonpower license for another beneficial use, on finding that such other use is best adapted to a comprehensive plan for improving or developing the affected waters. (16 U.S.C. § 808(b)).

1. A nonpower license under the FPA is temporary. It will be terminated whenever another public agency is willing to assume regulatory supervision of the affected lands and waters.

2. Since the FPA does not specify the purposes for which such a license may be granted, FERC may consider all of the beneficial uses recognized by the FPA.

E. FERC may deny a new license if a project is not best adapted to a comprehensive plan for the affected waters, or the licensee rejects the offered license, in either of which events FERC may order the project to be decommissioned. Having found in a recent policy statement that it has this authority, FERC anticipates that it will rarely order decommissioning, and that the form of remedy (e.g., shut-down or removal of facilities) will depend on individual circumstances. (60 Fed. Reg. 339 (Jan. 3, 1995)). FERC has never ordered a project to be decommissioned.

F. On its own motion or the recommendation of a federal agency, FERC may recommend to Congress the federal takeover of a licensed project upon expiration of its original license. (16 U.S.C. § 807(b)). FERC has never made such a recommendation. (See 60 Fed. Reg. at 339).

II. OPPORTUNITIES FOR ENVIRONMENTAL BENEFITS IN RELICENSING

A. Of the four options upon expiration of an original license, relicensing creates the greatest opportunities for enhancing the quality of the natural resources impacted by a hydropower project.

1. For most licensed projects, federal takeover is unlikely due to budgetary constraints, as well as respect for the licensees' property interests.

2. A nonpower license merely provides for transition to regulation by another agency. FERC is likely to preserve the status quo and not impose additional requirements (or at least those involving additional costs) if it issues such a license.

3. Decommissioning has the promise of returning a project vicinity to the status quo ante -- before project construction. That promise depends on two unlikely events: FERC's finding that a given project is no longer in the public interest, and the licensee's having the financial means in a deregulated energy market to pay for decommissioning. Since FERC has never required decommissioning, and since a licensee may litigate any order which requires facility removal, this option is not likely to be used often or to provide widespread environmental benefits.

B. An application for new license provides a once-a-generation opportunity for persons affected by a project to work with the licensee to improve facilities and operations for beneficial uses other than energy generation.

1. The Federal Power Act requires the licensee to consult with resource agencies and other interested persons preparatory to filing a new license application. (18 C.F.R. § 16.8).

2. In many relicensing proceedings, the parties have undertaken systematic negotiations to identify and resolve disputed issues of law and fact. FERC staff have often participated in such negotiations and, where an agreement has been reached, have recommended that FERC adopt the settlement offer as the basis for the new license. In a recent proposed rule, FERC acknowledged that it will consider partial waivers of its rules, including the prohibition on ex parte communication with FERC staff, to accommodate such collaborative processes. (61 Fed. Reg. 64,031 (Dec. 3, 1996)).

3. The new license application and environmental document prepared under the National Environmental Policy Act ("NEPA") are often the first systematic analyses of project impacts on natural resources since the original license was issued.

C. In a new license, FERC will require changes in facilities and operations necessary to comply with modern environmental laws. As discussed above, the original license for a given project is not a defense against such additional requirements. The Federal Power Act does not grandfather projects from compliance with the laws which prevail at the time of expiration of that original license.

1. FERC must give "equal consideration" to energy and non-energy values in making a new license decision. (16 U.S.C. 797(e)).

2. The new license must assure that a project remains best adapted to serve all beneficial uses of the affected waters, in light of the modern laws which apply to such uses.

3. A new license must "enhance[]" impacted natural resources, in a manner consistent with energy generation and achievement of other beneficial uses. (16 U.S.C. § 803(a)(1)). Even though the analytical baseline for the NEPA document is existing conditions, FERC must mitigate cumulative impacts to the extent consistent with the Federal Power Act. (See 40 C.F.R. §1500.2(f)). The mitigation and enhancement requirements in a new license should be roughly proportionate to the project's past, present, and foreseeable adverse impacts. (See, e.g., Ohio Power Company, 71 FERC ¶ 61,092 (1995), 1995 FERC LEXIS 759, p. *40; City of Tacoma, Washington, 67 FERC ¶ 61,152 (1994), 1994 FERC LEXIS 818, p. *27).

4. Under FPA section 18, a new license must incorporate a fishway, where required by USFWS or NMFS. Such prescription includes: "physical structures, facilities, or devices" necessary to maintain "...all life stages of such fish..." as may be present in the project reach; and second, "project operations and measures related to such structures, facilities, or devices which are necessary to ensure [their] effectiveness ...." (P.L. 102-486, § 1701(b) (1992)). FERC must incorporate into a new license any prescription which is timely submitted and within the scope of that statutory definition. For example, FERC approved a fishway for the benefit of a species which had not been present in the project reach for decades, on the prescribing agency's findings that a plan was in place to reintroduce that species, and that the prescription would be necessary for its protection. (See Public Utilities District no. 1 of Okanogan County, Washington, 76 FERC ¶ 61,271 (1996), LEXIS p. *50).

5. FPA section 4(e) provides that a license for a project within a federal reservation must incorporate whatever conditions the managing agency deems necessary for protection and use of impacted resources. In practice, the agency establishes conditions through application of the management plan which is in effect for the reservation, such as the Land and Resources Management Plan for a National Forest. FERC must incorporate into a new license, without amendment, those conditions timely submitted by the managing agency. (16 U.S.C. § 797(e); Escondido Mutual Water Co. et al. v. La Jolla Band of Mission Indians et al., 466 U.S. 765 (1984)). The agency is not limited to the statutory purposes or management plan in effect at the time the original license was issued. (See, e.g., Rainsong Company, 78 FERC ¶ 61,352, 1997 FERC LEXIS 517, *9 (1997)).

6. A new license must incorporate the water quality certification issued by the State under Clean Water Act section 401(a). That certification includes those measures, including changes in facilities and operations, which the State deems necessary to assure the project's compliance with water

quality standards. (Jefferson County PUD no. 1 v. City of Tacoma, 511 U.S. 700 (1994); 33 U.S.C. § 1341(d)). Such standards are often narrative, such as "primary contact recreation" or "fish propagation and survival." Jefferson County PUD confirms that a certification may regulate water storage and release, when necessary to comply with a standard such as fish propagation. The State cannot compromise compliance on the basis of economic considerations. FERC must incorporate into a new license those certification conditions necessary for such compliance.

7. Where many licensed projects operate in a given basin, FERC may use several mechanisms to improve coordination in their operations. These include: accelerated expiration of the later original licenses so that all licenses may be reviewed concurrently; or a condition in any new license allowing for reopener when the later original licenses expire. (69 FERC ¶ 61,337 (1994)).

III. OBSTACLES TO REALIZING ENVIRONMENTAL BENEFITS IN RELICENSING

A. FERC and licensees seek to limit the scope and effect of the statutes giving other agencies mandatory authorities to condition new licenses.

1. FERC has interpreted FPA section 18 narrowly to exclude any structure or operation intended solely to prevent or limit fish entrainment. (Niagara Mohawk Power Corporation, 74 FERC ¶ 62,138 (1996), LEXIS p. *8). Also, licensees may challenge a fishway prescription on the ground that it is not adequately supported by the record submitted by the prescribing agency. (See Bangor Hydro-Electric Company v. FERC et al., 78 F.3d 659 (1996)).

2. Licensees have appealed FPA section 4(e) conditions for the protection of federal reservations, on the ground that the statute applies to original licenses and not new licenses. (Southern California Edison Company et al. v. FERC (D.C. Cir. no. 95-1171)).

3. FERC has rejected CWA section 401(a) conditions on the ground that they are not reasonably related to compliance with water quality standards. (See Tunbridge Mill Corporation, 68 FERC ¶ 61,078 (1994)). American Rivers, Inc. and the State of Vermont have appealed this order on the ground that FERC does not have the authority to distinguish proper from other conditions in a certification.

B. The Federal Power Act does not establish objectives or standards for environmental mitigation, protection, and enhancement. FERC interprets the "equal consideration" mandate to mean a hard look at all issues, not equal division of project waters between energy and natural resources. Because of the discretion claimed by FERC, a new license results in much or little change depending on the record and other circumstances of the individual proceeding.

C. The restructuring of the energy market may, over time, mean that licensees cannot recover from ratepayers certain costs incurred in new licenses. Fear of that future has motivated many licensees, since 1996, to resist any new costs not expressly required by applicable laws.

D. A new license application and the associated NEPA document tend to provide a limited scientific basis for understanding project impacts. They often do not identify the project's past impacts with any particularity and do not evaluate the relative significance of the project and other causes for degradation of a given resource. These scientific limitations favor the status quo, since the benefits of improved protection may be unknown while the costs to the licensee may be readily estimated.

IV. RELATED MATERIALS

I have attached the platform and other documents issued by the Hydropower Reform Coalition, making procedural and substantive recommendations for new licenses.

HYDROPOWER REFORM COALITION

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ABOUT THE HYDROPOWER REFORM COALITION

The Hydropower Reform Coalition is a coalition of national, state, and local conservation and recreation organizations working to reform national hydropower policies and achieve improvements to rivers altered by hydropower dams. The Coalition has a Steering Committee of eleven organizations, and a national membership of numerous additional organizations.

Members of the Steering Committee are:

American Rivers, American Whitewater Affiliation, Appalachian Mountain Club, Conservation Law Foundation, Idaho Rivers United, Natural Heritage Institute, New England FLOW, New York Rivers United, Michigan Hydro Relicensing Coalition, River Alliance of Wisconsin, Sierra Club Legal Defense Fund, and Trout Unlimited.

Coalition General Members include:

Alabama Rivers Alliance, American Canoe Association, Atlantic Salmon Federation, California Hydropower Reform Coalition, California Save Our Streams, California Sport Fishing Alliance, California Trout, Colorado Rivers Alliance, Committee to Save the Kings River, Federation of Fly Fishers, Friends of the Eel, Friends of the River, Housatonic Coalition, Montana River Action Network, The Mountaineers, New Hampshire Rivers Council, Rivers Council of Washington, Sawmill River Watershed Alliance, and Tuolumne River Preservation Trust.

There are non-federally owned hydropower dams on virtually all rivers in the United States. These private dams are under the jurisdiction of the Federal Energy Regulatory Commission (FERC), which issues thirty to fifty-year licenses for new and existing dams. When a dam license expires, the owner must apply again to FERC for a new license. These licenses impose conditions on operation of the dam, such as minimum water flows, means for fish passage, recreational access and management of project lands.

Dams injure rivers in many ways, including cutting off free-flowing freshwater systems, blocking the flow of nutrients and sediments, blocking fish migrations, destroying stream-side habitat, slowing and overheating the river upstream of the dam, and reducing flows downstream. Hydropower dams throughout the nation are destroying native fish populations such as Atlantic and Pacific salmon and significantly reducing flows in formerly wild rivers.

COALITION STEERING COMMITTEE

American Rivers • American Whitewater Affiliation • Appalachian Mountain Club • Conservation Law Foundation •Idaho Rivers United • Michigan Hydro Relicensing Coalition • Natural Heritage Institute • New England F.L.O.W. • New York Rivers United • River Alliance of Wisconsin • Sierra Club Legal Defense Fund •Trout Unlimited

Until 1993, relicensing was a relatively infrequent procedure which received little, if any, public attention. In 1993, 160 licenses affecting 237 dams on 105 rivers expired, representing over ten percent of all FERC-licensed dams. These relicensings represent the beginning of an unprecedented wave that will continue with licenses for 650 more dams expiring in the next 15 years.

The Hydropower Reform Coalition formed in 1992 to take advantage of this once-in-a-lifetime opportunity to restore river ecosystems through the relicensing process, and to reform the way FERC licenses all hydropower dams. In each relicensing, the Coalition seeks the following key conditions:

Improved instream flows
Restoration of flows to de-watered bypass reaches
Fish passage facilities, where necessary
Public access to the river for recreation
Protection of riparian habitat
Environmental restoration and mitigation trust funds
Planning for long-term dam maintenance or retirement
River-wide planning and cumulative analysis

Through the relicensing process, the Hydropower Reform Coalition has made progress in restoring rivers impacted by hydropower dams, and has made FERC take seriously its legal obligation to give equal consideration to power and non-power river resources (such as fish, wildlife and recreation) when reviewing hydropower applications. Relicensing has provided and will continue to provide a tremendous opportunity to restore rivers today and protect them for tomorrow.

For more information about the Hydropower Reform Coalition, please contact:

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PLATFORM

FOR RESTORING ENVIRONMENTAL AND RECREATIONAL VALUES TO RIVERS DEVELOPED FOR HYDROPOWER AND REFORMING FEDERAL HYDROPOWER POLICY

The undersigned national, regional, and local environmental and recreation organizations, urge Congress and the Clinton Administration to take the following actions to restore environmental and recreational values at hydropower projects presently being relicensed across the country, and to reform hydropower policy to guarantee needed environmental protection measures in hydropower regulations.

PART ONE

RESTORING ENVIRONMENTAL AND RECREATIONAL VALUES AT HYDROPOWER PROJECTS PRESENTLY BEING RELICENSED

The Federal Energy Regulatory Commission (FERC) has significant existing authority to protect and restore environmental and recreational values at hydropower projects being relicensed across the country. The Hydropower Reform Coalition will ensure that FERC adequately implements in individual proceedings its existing authority on the following issues.

1. Base Relicensing Decisions on River-Wide Planning and Cumulative Analysis

FERC must prepare environmental impact statements that include all hydroelectric facilities in a river basin and consider the cumulative impacts of all hydropower facilities and other activities causing impacts. In addition, FERC must consider in its relicensing decisions comprehensive river plans prepared by state or federal resource or planning agencies. FERC must include terms in each license that result in the synchronization of license terms on each river basin, and must adjust license terms to meet ecosystem needs while also providing predictability for licensees.

2. Consider all Alternatives to Relicensing Projects

Energy and environmental conditions are vastly different today than when dams due for relicensing were built. Existing projects must not simply be "rubber stamped" for relicensing. Decisions must

be made about whether specific projects are appropriate uses of a river. For this reason, FERC must comply with its own regulations by considering all alternatives to relicensing, including energy conservation and a "no action" alternative that would deny a project license.

3. Ensure that Hydropower Projects are Consistent with Water Quality Requirements

States must ensure that hydropower relicensing decisions comply with applicable water quality requirements and designated uses of waterways. FERC must not have authority to waive licensee compliance with these standards.

4. Restore Sufficient Water Flows and Habitat to Rivers

FERC must ensure that ecological and recreational values of rivers long degraded by hydropower are restored with sufficient water flows. Instream flows must provide adequate protection for endangered or threatened species and for wildlife and fisheries habitat, and sufficient opportunities for recreational activities. To help achieve these goals, water must be restored to dried-up river stretches, flow levels raised in excessively low-flow stretches, and highly fluctuating flows moderated where they harm the ecosystem or pose a safety problem.

5. Establish a Mitigation Fund for River Conservation and Restoration Programs

Licensees must be required to establish environmental mitigation funds by setting aside a percentage of their gross power revenues for river conservation, restoration, and recreation projects.

6. Mandate Needed Facilities for Upstream and Downstream Fish Passage

Hydropower projects must no longer be allowed to impede the migration of, kill, or injure fish. FERC must assist in the restoration of fish populations by requiring, where appropriate, the most biologically effective fish passage along with sufficient flows for spawning, rearing and migration. FERC must also require compliance with state and federal fisheries management and restoration programs.

7. Protect Riparian and Watershed Lands

Rivers are directly impacted by the integrity of surrounding watershed land. FERC must require that all lands owned by a licensee in the vicinity of its hydropower project be included within the project boundary. FERC must also require each licensee to manage lands it owns to mitigate project impacts. Absent ownership, licensees must be required to purchase such lands from willing sellers.

8. Ensure Free Public Access to Rivers

Project licensees must provide reasonable and safe access to the river in the vicinity of hydroelectric projects for recreational activities. Licensees should not be allowed to charge the public for access to public rivers.

9. Guarantee Sufficient Funding for Dam Decommissioning

FERC must either require establishment of a general fund to cover decommissioning of retired hydroelectric projects, or, as a requirement of issuing individual licenses, ensure that all licensees have financial resources to pay the cost of individual project decommissioning.

10. Ensure Flexibility in the Relicensing Process

To ensure that the non-power values of rivers are adequately protected, FERC must exercise its existing authority in a coordinated and flexible fashion that will identify the best system of protection based on the circumstances of each individual proceeding.

PART TWO

REFORMING HYDROPOWER REGULATIONS TO GUARANTEE SUFFICIENT ENVIRONMENTAL PROTECTION MEASURES

Although FERC currently has authority to protect the environmental and recreational values of rivers developed for non-federal hydropower, reform of FERC's substantive and procedural authority is needed to guarantee sufficient protection of the non-power resources of these rivers. The Hydropower Reform Coalition seeks to effect the following reforms as appropriate through administrative initiatives, legislative improvements, and negotiation with industry.

1. Ensure Uniformity and Certainty of Federal Action

FERC is obligated to demonstrate due deference to the authority and expertise of other state and federal resource agencies in ensuring "equal consideration" of power and non-power uses and values of each river system. If FERC fails to defer adequately to other resource agencies, the Coalition will seek fundamental reform to ensure adequate balancing of power and non-power resources, including the reallocation of jurisdiction among federal and state agencies involved in relicensing proceedings.

2. Ensure that Hydropower Projects are Consistent with Water Quality Requirements

States must ensure that hydropower relicensing decisions comply with applicable water quality standards and designated uses of waterways. The Coalition will assist states in developing and enforcing state water quality requirements.

3. Ensure Public Involvement in Hydropower Relicensing and Compliance

FERC and other agencies must adopt procedures to enable citizens and citizen organizations to be involved as early and thoroughly as possible in the relicensing process.

4. Improve the Scientific, Economic and Efficiency Analyses of Proposed Relicensing Projects

FERC must improve the scientific, economic and efficiency analyses of proposed relicensing projects. In particular, the analyses must be conducted in a more consistent fashion and by independent, qualified third parties; the results must be subject to independent peer review and properly applied to the project.

5. Improve FERC Procedures for Relicensing Hydropower Facilities

Present FERC regulations for relicensing hydropower facilities are inefficient, do not ensure adequate balancing of power and non-power resources, and do not enable sufficient public participation early in the licensing process. The Coalition will continue to work with FERC, other agencies, and the hydropower industry to develop procedures that are clear, efficient, and adequately protect natural resource concerns.

6. Ensure FERC's Adherence to Environmental Laws

FERC is obligated by the Electric Consumers Protection Act (ECPA) to give "equal consideration" to power generation and the recreational and ecological values of free-flowing streams in making its decisions. In addition, FERC must comply with the National Environmental Policy Act (NEPA), which necessitates the preparation of environmental impact statements where appropriate, the Clean Water Act (CWA), and other state and federal laws. The Coalition will exercise careful oversight of FERC to ensure that it adheres to these and other environmental laws.

7. Appoint FERC Commissioners Who Have Experience in Natural Resource Protection

A significant component of FERC's role in regulating energy development is protection of natural resources and minimization of the environmental impacts of energy development. To provide appropriate expertise for this role, the Administration must nominate Commissioners to FERC who have backgrounds in natural resource protection.

8. Encourage Settlements

FERC should encourage settlement of relicensing proceedings by the parties.

For a complete listing of organizations endorsing this platform, please contact the Hydropower Reform Coalition at (202) 547-6900.

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ENVIRONMENTAL "BASELINE" IN FERC RELICENSING

I. *Introduction*

This paper is intended to provide guidance to Hydropower Reform Coalition members and others on establishing the need for the Federal Energy Regulatory Commission (FERC) to evaluate the river environment that existed prior to dam construction in order to make an informed decision at relicensing that meets the legal standards of both the Federal Power Act (FPA) and the National Environmental Policy Act (NEPA). It is organized in three sections. The first section sets forth FERC's "baseline" policy as stated in its Declaratory Order in the Cushman proceeding, its supporting rationale, and the practical consequences of FERC's policy. The second section defines the issues encompassed by the term "baseline" to provide the context for further analysis. The third section identifies and explains the legal requirements of the FPA and NEPA that obligate FERC to analyze the pre-project environment[1] in relicensing proceedings and the reasons why that information is essential to an informed licensing decision.

II. *FERC's "Baseline" Policy*

FERC's orders in Public Service Co. of New Hampshire, 68 FERC ¶ 61,177 (1994), and City of Tacoma, 67 FERC ¶ 61,152 (1994) and 71 FERC ¶ 61,381 (1995), establish the Commission's "baseline" policy: For all relicensing proceedings under FPA, the appropriate "baseline" for determining environmental impacts, action alternatives, and protection, mitigation, and enhancement measures is the existing river environment with the project operating in its present mode. The Commission squarely rejected arguments that the FPA and/or NEPA compel use of a pre-project environmental "baseline." The Commission did acknowledge, however, that historic resource conditions may be relevant to assessing cumulative project impacts.

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[1] The term "pre-project" environment does not refer to a single point in time. It covers the period from before significant human impact to the time of project construction. The inquiry into pre-project conditions should yield information about the natural river environment and significant non-project impacts that are essential to understanding cumulative impacts and to developing an effective restoration strategy, as explained in more detail in this paper.

The practical consequences in relicensing of the Commission's "baseline" policy include:

(1) an applicant is not obligated to examine pre-project environmental conditions when applying for a new license;

(2) FERC will not require an applicant to mitigate during a subsequent license term for environmental damage related to project construction and operation previous license term;

(3) FERC will consider pre-project conditions only in proceedings where it deems such information to be relevant to assessing continuing or cumulative impacts;

(4) FERC's "balancing" of power and environmental values is, from the start, weighted heavily in favor of power production because significant project-related environmental degradation is excluded from consideration (existing river conditions are the "no action" alternative against which all alternatives are compared); and

(5) protection, mitigation, and enhancement measures included in a subsequent license may be directed at "enhancing" aspects of the degraded ecosystem (e.g., improving warm-water fisheries in dams behind reservoirs), instead of restoring the ecological processes essential for river health.

Another consequence which flows logically from FERC's "baseline" policy is that an environmental impact statement (EIS) will not be required unless there are significant operational or structural changes proposed by the applicant.

III. *Defining "Baseline"*

There is no statutory obligation under either the FPA or NEPA for FERC to use an environmental "baseline" when licensing hydroelectric projects, nor is the term "baseline" defined in either statute. FERC uses the term to describe the point in time from which environmental analysis begins. This starting point is significant for two reasons. First, it determines the quantity or level of environmental impacts attributable to the project (*i.e.*, impacts are much greater when viewed from a pre-project perspective as opposed to a present-day perspective), and, consequently, the amount of mitigation that FERC requires.

For example, in the DEIS for the Cushman relicensing, FERC concludes that increasing the minimum instream flow from 30 cfs to 100 cfs, as proposed by the utility, would "enhance" salmon habitat. In fact, it would continue to limit salmon habitat, although to a lesser degree, because the average flow without the project would be 760 cfs. Thus, the

current condition baseline turns continuing resource losses into resource "gains." Moreover, in some proceedings, FERC has used such "gains" to justify more degradation. For example, in the relicensing of the Leeburg-Walterville project, FERC attempted to justify flooding wetlands by stating that the loss was offset by an increase in minimum flows that was still significantly below the flows that would exist without the project.

Second, it affects the type of protection, mitigation, and enhancement measures that will be used to offset project impacts. If measures are designed to improve the existing environment (e.g., enhancing reservoir fisheries and reservoir recreation), they may not restore the ecological health of the river. This is problematic not only because it misdirects mitigation efforts, but also because it invests resources in maintaining an artificial environment that people come to rely on, thus creating a disincentive for river restoration.

These critical issues are not addressed in FERC's explications of its baseline policy. (FERC inaccurately defines the issue as whether it will be required to rewrite history and make licensing decisions based on an environment that has not existed for 50 years). Focusing on these issues and defining accurately FERC's obligation to assess and use pre-project environmental conditions in relicensing requires an analysis of the relevant provisions of the FPA and NEPA. Specifically, we must identify which provisions require FERC to consider environmental conditions that existed prior to project construction, and for what purpose.

IV. *The Statutory Provisions Requiring Analysis of the Pre-project Environment*

A central purpose of both the FPA and NEPA is to ensure informed decisions about the best use of our rivers. Udall v. FPC, 387 U.S. 428, 450 (1967). A corollary of that requirement is that FERC must obtain and evaluate sufficient information from which informed decisions can be made. Information on all significant environmental impacts of a project, which necessitates an inquiry into the pre-project environment, is essential for informed decision-making. The specific statutory provisions in the FPA and NEPA that support this conclusion are discussed below. It is important to emphasize that each of these provisions is discussed separately to fully develop each basis for evaluating the pre-project environment. From a practical standpoint, however, these provisions stand collectively for the propositions that: (1) FERC must evaluate the pre-project environment in relicensing; and (2) the type and quantity of mitigation measures to be included in a new project license must be based on all project impacts since construction.

A. The Federal Power Act

1. Equal Consideration of Non-Power Values

The FPA, as amended by the Electric Consumers Protection Act (ECPA) in 1986, states that the Commission shall provide "equal consideration" to all public purposes served by the FPA, including the protection of fish, wildlife, recreation, and environmental quality, when

licensing or relicensing a hydroelectric project." 16 U.S.C. § 803(a). The addition of the "equal consideration" requirement to §10(a) was intended to ensure that FERC gives "nondevelopmental values the same level of reflection as it does to power and other developmental objectives. In other words, it requires the thorough evaluation of these values before FERC makes its licensing decision." Conference Report, No. 99-934, 99th Cong., 2nd. Sess. (1986) at 2538.

The question remains, however, what environmental information must be provided "equal consideration" by the Commission. Is it enough to consider just the existing environment, or must the Commission take into consideration how the project has affected the environment since construction and how it could be restored?

Implicit in FERC's "baseline" policy is the premise that environmental values were adequately considered and protected at the time the original licensing decision was made, and, consequently, there is no need to repeat that exercise. That premise is undercut by the fact that Congress passed ECPA in 1986 specifically because FERC had historically not given due consideration to environmental values when issuing hydropower licenses. Even if ECPA had never been passed, however, there is ample evidence in the legislative history of the FPA to support the conclusion that all environmental impacts of a project must be reevalutated during relicensing.

First, the legislative history regarding the FPA's 50-year cap on hydroelectric project licenses evinces a clear intent to ensure that the commitment of a river to power production be reevaluated anew at the time of relicensing. As succinctly stated by Theodore Roosevelt prior to passage of the FPA:

> The public must retain the control of the great waterways. It is essential that any permit to obstruct them for reasons and on conditions that seem good at the moment should be subject to revision when changed conditions demand. . .. Provision should be made for the termination of the [license] at a definite time, leaving to future generations the power or authority to renew or extend the concession in accordance with the conditions which may prevail at the time.

(Quoted in) H.R. Rep. No. 507, 99th Cong., 2d Sess. 11 (1986) (emphasis added).

Consistent with Roosevelt's view, the federal courts have also construed the Federal Power Act to require a complete reevaluation of the harms and benefits of a project at relicensing. In Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, 746 F.2d 466 (1984), the Ninth Circuit stated:

> Relicensing . . . is more akin to an irreversible and irretrievable commitment of a public resource than a mere continuation of the status quo. (citation omitted). Simply because the same resource had been committed in the past does not make relicensing a phase in a continuous activity. Relicensing involves a new commitment of the resource

. . ..

Id. at 476-77 (emphasis added).

The Commission has even acknowledged that relicensing involves a "full opportunity to reevaluate the best use of each project upon expiration of the [original] license." H.R. Rep. No. 1643, 90th Cong.2d Sess., reprinted in 1968 U.S. Code Cong. & Ad. News 3081, 3086 (letter from FPC Chairman Lee C. White).

Thus, the same licensing standard applies to both original licensing and relicensing proceedings. Yakima, 746 F.2d at 470.

> The test is whether the project will be in the public interest. And that determination can be made only after an exploration of all issues relevant to the "public interest," including future power demand and supply, alternate sources of power, the public interest in preserving reaches of wild rivers and wilderness areas, the preservation of anadromous fish for commercial and recreational purposes, and the protection of wildlife.

Udall v. FPC, 387 U.S. 428, 450 (1967) (emphasis added).

This test cannot be met without evaluating how the project has impacted the environment and associated public benefits, and how those public benefits would be served by restoring a free-flowing river, or attributes of a free-flowing river. Information regarding pre-project conditions (*e.g.*, aerial photographs, maps, historical records) is essential for accurately predicting what the river would look like today without the project, and for identifying the public benefits that would be served by restoring the river to a more natural state. This is not equivalent to asking FERC to make licensing decisions based on an environment that has not existed for 50 years or to ignore the existence of the project, as it often asserts. Rather, it asks FERC to take highly relevant historic information into account when determining whether relicensing an existing project is in the public interest given today's public values.

Thus, FERC's current condition "baseline" results in unequal treatment of power and environmental values because it takes into account all power benefits of a project while ignoring many environmental harms and public benefits linked to environmental restoration. As established by the federal courts, relicensing involves a new decision on whether or not to dam a river to produce power which requires an analysis of all issues relevant to the public interest. By excluding from analysis a project's past and continuing environmental impacts and potential restoration measures, FERC's existing condition "baseline" is inconsistent with the FPA.

2. "Adequate and Equitable" Protection, Mitigation, and Enhancement

Section 10 of the FPA also requires that relicensing be conditioned upon the inclusion

of "adequate and equitable" fish and wildlife protection, mitigation, and enhancement measures ("PM&E measures"). 16 U.S.C. §803(j). The terms "adequate" and "equitable" are not defined in the statute, but based on their plain meaning they would seem to require two things: (1) measures that would be effective at achieving the resource objective; and (2) measures that would yield resource gains that are commensurate with project impacts.

a. Effectiveness

Fish and wildlife cannot thrive without a healthy river environment. The scientific literature regarding river restoration establishes that river restoration must be achieved through reestablishing or replicating the natural river processes that maintain the river channel and provide habitat for fish and wildlife. For example, seasonal flow variations (high spring flows, low summer/fall flows) that are essential to meet the different life-history requirements of salmon and steelhead. The recently released report of the Independent Scientific Group, which studied the measures needed to restore salmon and steelhead in the Columbia River Basin, strongly endorses this approach.[2] Restoring or replicating natural processes cannot be accomplished without first understanding how the natural river system functions. "Until we understand the structure of undisturbed habitats that wild stocks developed within, and the sequence of [natural] changes that have occurred in those habitats, our present protection and enhancement efforts will lack both a rational context and effective direction."[3]

Thus, the essential first step in determining appropriate PM&E measures is to determine the historic conditions within which fish and wildlife evolved. Again, the goal is not to recreate a river environment that existed many years in the past (as FERC asserts), but to understand the key ecological conditions required for healthy, self-sustaining fish and wildlife populations, and to strive to restore the physical, chemical, and biological processes that create and maintain those conditions. Only then can effective PM&E measures be developed. An example of this approach is the evolving concept of "watershed analysis" which uses historical resource information to develop "reference conditions" (*i.e.*, the key ecological conditions essential to ecosystem health) to guide management decisions.

An argument often raised by licensees and implicit in FERC's "baseline" policy is that gathering information on pre-project resource conditions would be "too expensive" and that

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[2] Williams, R. et al. 1996. Return to the River: Restoration of Salmonid Fishes in the Columbia River Ecosystem.

[3] Sedell, J.R. and K.J. Luchessa. 1981. Using the historical record as an aid to salmonid habitat enhancement. p. 210-223 in Acquisition and Utilization of Aquatic Habitat Inventory Information, Proceedings of a Symposium, Western Division, American Fisheries Society. N.B. Armantrout (ed.).

the information would be "unreliable." In reality, there is often a significant amount of reliable historic information available from various sources, including government reports, photographs, and local newspapers. Moreover, with today's technology, it is often possible to determine natural river features based on computer modeling. For example, in the relicensing of PacifiCorp's North Umpqua project in Oregon, a team of geomorphologists is using a model to provide a "natural river" template for determining the project's physical and biological impacts. In short, useful information on pre-project conditions can usually be obtained without great expense.

b. Quantity

The use of the terms "adequate and equitable" also implies that there should be a sufficient quantity of protection, mitigation, and enhancement measures. The key issue here is how "sufficiency" is determined. Under FERC's existing condition "baseline", the existing, degraded environment is used as the measure. Consequently, any action that improves upon the current, degraded conditions may be deemed "sufficient," and FERC's acceptance or rejection of a proposed action often turns on cost.

Measuring sufficiency using the existing, degraded environment contradicts the case law discussed above establishing that relicensing is a new commitment of the river which requires an inquiry into all relevant harms and benefits to the public related to the project. Continuing impacts caused by dam construction, such as inundated wildlife habitat, diminished flows, and blocked fish passage are relevant harms that must be evaluated during relicensing. The fact that they exist now does not mean that they must continue to exist in the future. This conclusion is buttressed by the legislative history of ECPA. Specifically, the House Report states that it was Congress's intent "to ensure that non-power values are, to the greatest extent possible, as healthy and abundant after licensing as before." H.R. Rep. No. 507, 99th Cong., 2d Sess. 30 (1986).[4] Thus, it follows that the adequacy of protection, mitigation, and enhancement measures must be judged based on all project impacts, not just future impacts.

Evaluating what constitutes "adequate and equitable" protection, mitgation, and enhancement, therefore, requires a determination of what environmental harm has accrued since project construction and whether that harm will continue if the project is relicensed. If the pre-project environment is not assessed and losses are not recovered through the relicensing process, congressional intent would be frustrated, and the applicant would receive a windfall at the public's expense (*i.e.*, it would not be held accountable for any of the harm caused during construction or the original license term while having reaped the financial benefit

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[4] FERC has acknowledged that the objective of mitigation is to "balance the project-caused resource loss with a roughly proportionate resource gain." Ohio Power, 71 FERC ¶ 61,092.

of power generation over the original and new license terms).[5] Such an outcome would be contrary to the public interest.

In sum, FERC's current condition "baseline" violates both the "equal consideration" and "adequate and equitable" fish and wildlife protection, mitigation, and enhancement provisions in the FPA.

B. The National Environmental Policy Act

1. "No Action" Alternative

NEPA requires FERC to consider the environmental consequences of a full range of alternative actions when licensing hydro projects, including the "no action" alternative. See 40 C.F.R. §1502.14. The "no action" alternative is the scenario against which the environmental impacts of each alternative being considered are compared.

The Council on Environmental Quality's (CEQ) guidance on this issue states that the "no action" alternative depends upon the proposal being evaluated. According to CEQ's guidance, there are two ways to interpret the "no action" alternative. First, if the proposed action involves ongoing programs or activities mandated by the legislature (*e.g.*, updating land management plans), the "no action" alternative is appropriately interpreted as the status quo. Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,027 (1981), Answer to Question 3. Thus, if hydroelectric dam relicensing were considered an "ongoing activity", the river with the project operating under the terms of the existing license would be the "no action" alternative. Second, if a proposed project is at issue, the "no action" alternative is appropriately interpreted as not proceeding with the proposal. Id. Thus, if hydroelectric dam relicensing were considered to be a project proposal, not issuing a power license for the project would be the "no action" alternative.

The court's holding in Yakima – that relicensing is a new commitment of the river resource and not merely a continuation of the status quo – establishes that relicensing falls squarely under the second interpretation. The Yakima court reasoned that the FPA's 50-year license term limit, and the legislative history of the FPA, as amended by ECPA, clearly evince a congressional intent to provide an opportunity to completely reevaluate the best use of the river resource upon license expiration. Id. at 476. Thus, FERC's position, that the existing river environment with current project operations is the "no action" alternative, is inconsistent with CEQ policy, the intent behind the FPA, and the court's holding in Yakima.

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[5] Of course, PM&E measures implemented during the original license term would appropriately be factored into the determination of "adequate and equitable" fish and wildlife PM&E measures for a new license.

The proper "no action" alternative is denial of a power license – a decision not to recommit the public river resource for power production. There are two possible outcomes if a power license is denied: removing the structures or leaving them in place without generating power. Of these two outcomes, project removal (*i.e.*, the river without the project) appears to be the appropriate "no action" alternative because only this alternative enables consideration of all possible environmental impacts associated with the two alternatives (*i.e.*, both structural and operational).

If, on the other hand, the river with the project structures remaining in place were used as the "no action" alternative, the elimination of the structural impacts (which are often the most destructive) would not be considered. Consequently, FERC's assessment of the environmental impacts of alternatives that would involve maintaining the project could be significantly less than the actual impacts. For example, blocked passage would not be considered an environmental impact that would have to be mitigated in relicensing. This approach would inappropriately bias the ultimate decision in favor of maintaining the project, and would preclude consideration of all issues relevant to the public interest.

An understanding of what the river environment could be without the project requires first an understanding of the river environment prior to project construction. This does not mean that FERC should use the pre-project environment as the "no action" alternative, but that it must use the information on pre-project conditions to determine the environmental conditions that could exist today if the project were decommissioned and removed.[6]

2. Cumulative Impacts

NEPA requires FERC to evaluate during relicensing a project's continuing and cumulative environmental effects. "Cumulative impacts" are defined as "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions . . .." 40 C.F.R. § 1508.7. "Impacts" or "effects" (which are synonymous under NEPA) include ecological consequences "such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems." 40 C.F.R. § 1508.8(b).

Project construction and operation during the original license term constitute past and present actions that must be analyzed to ascertain the cumulative impacts of relicensing a hydroelectric project. Additionally, a complete cumulative impacts analysis must include other significant human impacts along the river, both pre- and post-project. For example, the cumulative effects of irrigation withdrawals and hydroelectric development have greatly diminished white sturgeon habitat in the Snake River.

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[6] Even if the "no action" alternative could be defined as other than decommissioning and dam removal, that alternative must still be analyzed as a "reasonable alternative" to the applicant's proposed operations See 40 C.F.R. §1502.16.

Understanding how a project and other human impacts have affected the environment since construction requires first an understanding of the natural ecological conditions that were altered. FERC's position, that it may consider the pre-project conditions "in appropriate cases" when evaluating cumulative impacts, is inconsistent with the mandatory nature of this obligation. FERC must evaluate the pre-project environment in every relicensing proceeding in order to assess accurately cumulative impacts associated with relicensing.

3. Analysis of Mitigation Measures

Finally, NEPA requires a thorough consideration of potential mitigation measures. See 40 C.F.R. §1502.14(f) and §1502.16(h). "Mitigation" includes "rectifying the impact by repairing, rehabilitating, or restoring the affected environment." 40 C.F.R. § 1508.20(c). As discussed above in the context of the FPA, pre-project environmental conditions must be analyzed in order to consider and evaluate mitigation measures that would prevent further environmental harm and restore degraded resources, consistent with NEPA policy objectives.

V. *Conclusion*

FERC's "baseline" position – that the existing environment should be used to assess an existing project's impacts – is inconsistent with both the FPA and NEPA. Under the FPA, pre-project conditions must be analyzed to ensure "equitable consideration" of non-power values, and to identify "adequate and equitable" protection, mitigation, and enhancement measures. Under NEPA, an assessment of pre-project environmental conditions is essential to: developing the "no action" alternative (dam decommissioning and project removal); evaluating continuing and cumulative impacts; and exploring a full range of mitigation options. Thus, without an analysis of the pre-project environment, the purpose of the FPA and NEPA – informed decisionmaking in the public interest – would be defeated.

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***DRAFT* March 6, 1997**

Recommendations for Cooperative Relicensing Proceedings

Increasingly, many Federal Energy Regulatory Commission (FERC) hydropower dam relicensings are following courses more collaborative or cooperative than the process established by the Federal Power Act (FPA) and FERC's implementing regulations. These cooperative approaches take various forms depending on the circumstances and participants. Generally, these proceedings offer significant advantages over the standard relicensing process, with increased opportunity for public input and early consideration of environmental impacts. These benefits, however, do not come without costs.

The purpose of the following guidance is to offer recommendations for creating an effective cooperative process and to identify some of the benefits and costs of participating in one. The recommendations are based on the collective experience of the Hydropower Reform Coalition's participation in over 100 FERC relicensing proceedings.

On December 3, 1996, FERC proposed new regulations for the relicensing of hydroelectric projects (61 Fed. Reg. 233) that would codify most elements of FERC's Applicant Prepared Environmental Assessment (APEA) process, as described in FERC's APEA policy statement released on April 7, 1996 (included as Appendix C to the proposed regulations). FERC's proposed regulations offer an alternative relicensing process whereby the pre-filing consultation process and the environmental review process are integrated, and all interested stakeholders are provided an opportunity to participate. While the APEA process and the proposed new regulations include important features of a good cooperative process, the Coalition believes several aspects need to be improved, consistent with the recommendations below. Most of the recommendations are consistent with the proposed FERC regulations.

Although cooperative proceedings vary from case to case, two fundamental features generally characterize all cooperatives. First, public interests such as state and federal resource agencies, conservation organizations, civic entities and citizens participate from the beginning of the process and take part in most aspects of the proceeding, including developing the process protocol, designing studies and developing mitigation and protection measures. Second, the National Environmental Policy Act (NEPA) environmental review is integrated with the consultation stage that occurs before a license application is filed, as opposed to beginning the process after filing.

The cooperative relicensing approach offers potential advantages over the standard process, including: greater participation by a broader constituency of river interests; broader and earlier consensus on the type and scope of studies, avoiding many debates later on about the adequacy of study results; more extensive and thorough treatment of environmental and social issues; early identification and resolution of significant issues; broad support/endorsement of license application package, including mitigation measures and license conditions; expedited processing

of license application by FERC; reduced risk of litigation; and a project license that more accurately reflects the collective interests of the entire stakeholder community.

Several issues warrant consideration before entering into a cooperative proceeding, however. For example, what happens if the process breaks down due to disagreements? Does it revert to standard FERC relicensing? What constitutes a breakdown? Further, as a condition of FERC's approval of a cooperative relicensing proceeding, which grants license applicants the benefit of fast-track license processing, FERC sometimes limits requests for further information or studies (Additional Information Requests, AIRs) to a stage earlier in the process than what the existing regulations allow.[1] The AIR limitation raises the concern that proceeding participants would be unable to ensure that application information is complete and accurate. These issues may be of more concern in some relicensing proceedings than in others, depending on the reputation and commitment of the applicant and the nature of the resources at stake.

Perhaps the most significant concern is the considerable amount of time and resources required to participate effectively in cooperative proceedings. Many participants find the demanding work load associated with typical cooperatives very difficult to sustain for the duration of the proceeding, while licensees usually have the resources to meet process demands. Because each cooperative process is developed by the participants, strategies can be designed to address concerns such as resource inequities, information deficiencies and conflict resolution.

The costs and benefits of cooperative proceedings deserve careful consideration before agreeing to participate. What follows are strategies recommended by the Hydropower Reform Coalition to develop an effective and fair cooperative relicensing proceeding. This is not, however, a guaranteed recipe for an effective cooperative proceeding. Each relicensing raises unique issues, and different conditions may be appropriate in some cases. The Coalition recommends careful consideration of all benefits and costs of a cooperative proceeding before agreeing to such a procedure in each relicensing. If it is determined that a cooperative proceeding would be beneficial, individual conditions can be crafted to meet the unique needs of the relicensing and to ensure that the proceeding is both effective and protective of natural resource concerns.

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[1] FERC argues that the timing of Additional Information Requests must be limited in order to meet the goal of expediting the process.

DRAFT March 6, 1997

Recommendations for Cooperative Relicensing Proceedings

OBJECTIVE 1: Effective public participation

A. Start the cooperative process as early as possible — It is easiest to design and implement a cooperative process during the initial stages of relicensing, preferably before the initial consultation documents are developed. **Avenue:** Initiate cooperative process when applicant publicizes its intent to file an application for a new license (this may be before the formal Notice of Intent to File an application).

B. Ensure all interested parties have an opportunity to participate — In order to avoid future delays in process due to late-arriving interests, ensure all members of the public have an opportunity to participate from the beginning of the process. **Avenue:** Notify all parties that may be affected by the project that a cooperative relicensing proceeding will take place.

C. Provide early public involvement in application preparation -- The traditional relicensing process does not encourage public input until after the Initial Consultation Package (ICP) has been developed, which can adversely limit the focus of project evaluation. Involvement should occur earlier. **Avenue**: Provide for public scoping of resource issues prior to developing the Initial Consultation Package. If this is not possible, the applicant should not seek to define the limits to project evaluation in the ICP, but defer to the results of the scoping process.

D. Establish a "level playingfield" for all participants in the cooperative process -- Commonly, the disparity among participants' resources and information makes it difficult to maintain effective participation and a balanced control of the process. This disparity should be eliminated to the extent possible. **Avenues**: (1) Provide equal access to information, agenda setting, *etc.*, to all participants. This requires full disclosure of technical information by all participants unless privileged or proprietary claims apply. (2) Provide funding for technical consultant(s) to represent conservation and recreation groups at meetings if necessary, or to provide the groups with sufficient expertise to participate in scoping issues, the study phase, and in development of Protection Mitigation and Enhancement (PM&E) measures. (3) Provide funding for reasonable NGO travel and related expenses to defray the costs of the more demanding cooperative process. (4) Provide NGO funding also to cover labor expenses involved in participating in the cooperative process.

E. Ensure sufficient opportunity to request additional information -- Many cooperative process proposals seek a waiver of Additional Information Requests (AIRs) by agencies, tribes and NGOs after the license application has been submitted. This is potentially problematic because additional study/information needs may arise post-application, even if every effort is made to identify all study/information needs in the consultation process. If there is a good-faith effort made during the consultation process to identify study/information needs, additional requests should not be an issue. **Avenue**: To ensure all study/information needs are satisfied, the opportunity for Additional Information Requests should not be waived.

OBJECTIVE 2: Productive and fair process

A. Establish a predictable and fair process -- Relicensing is a long and complex proceeding, involving significant natural, human and financial resources. In order to establish and sustain a fair and predictable process from beginning to end, all participants should participate in developing, and commit to, general principles and process guidelines. **Avenue**: At a minimum, participants should develop and adopt: (1) a mission statement and goals; (2) a well defined process protocol, which could include forming committees responsible for specific elements of the relicensing, *e.g.*, technical issues, general process coordination; (3) rules for interacting with the media; (4) a code of conduct, and; (5) protocols for communications among relicensing participants. It is important to resolve as many process related questions as possible before addressing substantive issues.

B. Discourage potentially divisive side agreements — Effective cooperative proceedings are based on the confidence of all participants that the process is fair, open and transparent. Entering into "side agreements" involving only a subset of all participants can erode the trust and cohesion critical to an effective cooperative. **Avenue:** Gain commitment of participants not to enter into side agreements. Holding caucuses, *i.e.*, holding meetings involving only certain participants, is acceptable, of course.

C. Maintain efficient, coordinated process -- Cooperative relicensings typically involve many participants and numerous parallel processes that need to be coordinated. Provisions should be made at the outset to coordinate all proceedings and facilitate communications. **Avenue**: Select by consensus an independent facilitator to guide the process, including scheduling and facilitating meetings, recording meeting minutes, coordinating communications among participants, *etc.*

D. Promote broad based decisions to minimize disputes and resulting disruptions to cooperative process — The overarching goal of a cooperative is to achieve what is most beneficial to all parties involved. **Avenues**: The goal of consensus decision-making should apply to all stages of the process, including devising studies and selecting consultants. Participants should develop and agree on a dispute resolution process outside of the formal FERC mechanism. FERC staff should not resolve disputes over studies or information, unless the participant-developed process fails to resolve a dispute, in which case the formal dispute resolution mechanisms provided under FERC regulations (18 C.F.R. § 16.8(b)(5)) would be activated.

E. Avoid potential conflicts with FERC regulations -- Components of some cooperative proceedings could conflict with FERC regulations. Such complications should be avoided. If conflicts are unavoidable, FERC should be involved to seek a mutually agreeable resolution. **Avenue**: Notify FERC (or invite to participate) at the beginning of a cooperative process to ensure that FERC staff will not preempt the process for lack of awareness of it. FERC staff would participate in an advisory capacity to ensure the process meets FERC regulations.

F. Maintain productive relations among Non Government Organizations -- In most cases, a cooperative process will include numerous conservation and recreation NGOs. In order to avoid complications among participating NGOs, groups should formalize the manner in which they will interact in the relicensing. **Avenue**: Conservation and recreation NGOs should develop

and commit to rules regarding representation at meetings and communications among NGOs and with other relicensing participants.

G. Participants maintain productive approach -- Perhaps more than any single element, the cooperative process depends on each participant maintaining a productive, problem solving approach to coax the process through the many difficult decisions that must be made.

H. Ensure an accurate and un-biased record is maintained throughout process -- A fair record will reduce mistrust and disputes. **Avenue**: Establish a mechanism to record meetings objectively, such as a court reporter or a facilitator transcribing meetings.

OBJECTIVE 3: Effective participation by resource agencies

Resource agencies participate *from beginning of* process -- State and federal resource agencies should participate from the very beginning of the relicensing process to facilitate early agreement regarding study design, and measures for the protection, mitigation and enhancement of resource values. It is recognized, however, that agencies might be uncomfortable committing to process agreements that could limit their ability to fulfill their authority/responsibilities, *e.g.*, in the Clean Water Act Section 401 process. **Avenue**: Define a clear role for agencies at the onset that enables full participation in the cooperative process while not impinging on regulatory authority.

OBJECTIVE 4: Objective, accurate and comprehensive information base

A. Produce an objective, thorough and accurate NEPA document -- A strong NEPA document will ensure thorough analysis of the issues and substantiate the basis of mutually-agreed PM&E measures. **Avenues**: (1) To attain the highest degree of impartiality in the NEPA process, an applicant prepared EA should be prepared by an independent contractor selected by the applicant and acceptable to all cooperative participants. (2) The scope of work for the studies should be developed by the cooperative team or a delegated subcommittee. (3) The bid proposal for the environmental document also should be approved by all interested parties. (4) The applicant's role in the NEPA process should be to provide FERC with sufficient information to determine project impacts and PM&E needs. As discussed below, this information should be developed using technical resource teams with expertise in specific resource areas. (5) Should the parties reach an agreement on PM&E measures, the agreed-upon terms should function as the preferred alternative in the EIS or be the basis for an EA (See HRC's *Policy on Environmental Review in FERC Relicensing* for more details of the Coalition's recommendations for environmental reviews).

B. Consider full range of Studies and PM&E measures -- The Federal Power Act requires informed decision-making for all uses of resources. Cooperative participants should focus on identifying studies to gather information on the full range of PM&E measures desired by participants so that an informed decision can be made. **Avenue:** All parties should submit a list of desired measures at the outset of the process. The compiled list should be used in identifying study needs.

C. Maintain a focus on developing mutually-agreeable PM&E measures -- The cooperative team should ensure to the extent possible that the focus of the relicensing remains on

the identification of mutually-agreeable PM&E measures. This will minimize time spent on unnecessary issues. **Avenue**: Discuss possible agreements on PM&E measures early in the process to identify areas of agreement and define areas where more thorough studies are needed to resolve disputes.

D. Minimize disagreements and time delays related to identifying study information needs, designing studies and analyzing results -- Much of the disagreement and delay in the traditional relicensing process stems from differences of opinion between the applicant and the agencies, tribes, and NGOs over the studies necessary to analyze project impacts and the conclusions drawn from studies. The cooperative process should eliminate these disagreements. **Avenue**: The cooperative team or technical resource teams created by the cooperative team should identify study information needs, study design, and analysis of study results. Outside experts could assist in an advisory capacity to resolve disputes.

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Policy on Applied Science in the FERC Relicensing Process

A. Standards for An Adequate Environmental Analysis Under NEPA and the FPA

1. Analyze project impacts on the full range of affected resources, including aquatic and terrestrial species, water flow, water levels, water quality, geology and soils, land use, socioeconomic, recreational, aesthetic, and cultural resources.

2. Evaluate all direct, indirect and cumulative project impacts

a. Direct - direct impacts are an immediate consequences of the construction and operation of the project and often are continuing. Examples include reduced flows, blocked fish passage and flooded wildlife habitat.

b. Indirect - indirect impacts are caused by the project but are the consequence of direct impacts. The conversion of desert land to agricultural land due to the availability of project electricity to pump irrigation water is one example. *(or* the impact on eagle/raptor populations from the loss of migratory fish as food source.)

c. Cumulative - cumulative impacts are those caused by the project when added to the impacts of other past, present, and reasonably foreseeable future actions in the basin. For example, a project's effect on reducing wetland habitat must be analyzed in light of wetland losses caused by other activities such as road construction, residential development, and agriculture. Another example is a project's effect on water temperature in light of the temperature effects of other activities such as existing dams, thermal discharges from municipal water users, and logging in riparian zones.

3. Geographic scope of analysis must be basin-wide -- a river is a continuum by nature: impacts that occur in the headwaters and tributaries can affect downstream reaches and vice versa. For example, agricultural practices upriver may cause nutrient loading which, in turn, may cause excessive algal and plant growth in the project reservoir. An example of a downriver impact that would have a profound effect upriver would be a dam blocking fish passage. Accordingly, it is not sufficient to analyze environmental impacts in the vicinity of the project; the analysis must encompass the entire basin, with the emphasis placed on the project area.

4. Temporal scope of analysis must include past impacts -- providing "adequate and equitable" protection, mitigation and enhancement for fish and wildlife resources and determining license conditions that best serve the public interest fundamentally requires an understanding of how a hydroelectric project has altered the river and its biota over time. This knowledge is necessary to determine: (1) the environmental conditions to which native fish and wildlife have

adapted; (2) how those conditions have been adversely affected by the project; and (3) the measures needed to restore those conditions to a more natural, healthy state. Moreover, determining an "adequate and equitable" level of protection, mitigation and enhancement is not possible without understanding the level of resource loss attributable to the project.

5. The no-action alternative must be license denial, which must include analysis of the river without the project -- this alternative must be evaluated in every relicensing, and should be used as the basis for comparing the impacts of all alternatives considered. An understanding of river conditions without the project requires analyzing resource conditions along the river prior to project construction.

6. Analyze all reasonable protection, mitigation and enhancement alternatives -- examination of a full range of protection, mitigation and enhancement measures should include: dam decommissioning; "run-of-river" operations (*i.e.*,no peaking); minimum bypass flows; fish passage and entrainment protection; temperature control measures; erosion control measures; and land acquisition (both on and off- site) for wildlife habitat, water quality protection and recreation opportunities. What is "reasonable" must be determined in consideration of all project impacts and economic benefits since construction, not merely existing environmental conditions.

7. Conclusions in an EA/EIS must be clearly supported by study results -- conclusions regarding resource impacts under each alternative action must be supported by direct reference to study results. Impacts should be quantified where possible, and qualitative analyses must be of sufficient detail to allow for a meaningful comparative evaluation of each alternative (*i.e.*, it is not sufficient to state that several actions will increase the amount of rainbow trout spawning habitat; the relative amount of habitat gained must be discussed).

8. Maintain consistency between impact analyses for different projects -- too often, contradictory conclusions are reached in different EAs/EISs. Conclusions regarding resource impacts under similar environmental conditions should be consistent, and where there are unique conditions that lead to a seemingly contradictory conclusion, those conditions should be thoroughly explained.

B. <u>Standards for Developing and Performing Studies</u>[1]

1. Provide opportunity for agency, tribe and public to identify resource issues that must be studied -- applicants should not determine unilaterally the information and issues that will be studied to support an application. Similar to the scoping phase of preparing an EIS under NEPA, the applicant should seek input from the resource agencies, tribes and public on the natural

[1] B.1 and B.2 are guidelines for applicants (and their consultants) performing environmental analyses pursuant to FPA Section 16.8, or pursuant to FERC's Guidelines for the Applicant Prepared Environmental Analysis Process (Office of Hydropower Licensing, April 2, 1996) or other cooperative relicensing process.

resource issues that must be studied prior to developing a study plan and commencing field work. Issues identification should be informed by desired future conditions.

2. Establish a study team consisting of experts from agencies, tribes and NGOs to determine appropriate studies and methodologies --the current FERC consultation regulations do not provide for adequate consultation over the selection and design of studies. Applicants should work with experts from the agencies, tribes and NGOs to determine appropriate studies to address information needs identified in the issue scoping phase. The study plan contained in the applicant's initial consultation document should be the work product of this collaborative effort.

3. Design studies to determine project impacts and identify protection, mitigation and enhancement measures that will address those impacts, not just describe the existing environment -- a meaningful environmental analysis under NEPA, and the determination of "adequate and equitable" protection, mitigation, and enhancement measures under the FPA, cannot take place if there is insufficient information on a project's environmental impacts and how those impacts could be eliminated or mitigated. Thus, studies must be designed to provide that information.

4. Qualitative data should be acceptable when other data is not available -- For some study areas, such as the past impacts of the project, precise data may be difficult to collect. This must not be a justification for not evaluating an issue. All relevant information should be considered, ranging from quantitative monitoring data to qualitative/anecdotal (*e.g.*, "there used to be fish in this river").

5. Document study method background -- Background on selected study methods must be consistently documented in all study plans, including: known errors and biases, precision and accuracy if relevant and recommended corrections (*e.g.*, body size corrections when comparing mercury in a fish species between different lakes).

6. Provide support documentation from scientific literature for methods employed -- To reduce the likelihood of sub-standard or untested methods being employed, support documentation from the scientific literature on the method(s) being used must be a standard requirement for all study plans.

7. Document coefficients selected for models -- Study plans should clearly document coefficients selected for models, including the similarities and differences between the origin of the coefficients and the conditions to which they are being applied, and the range of conditions within which the coefficients are applicable. For example, are Habitat Suitability Index (HSI) curves derived from the summer being used inappropriately to predict winter conditions? were the HSI curves derived from small streams, but being inappropriately applied to big river systems?

8. Clearly state assumptions -- many studies require that certain assumptions be made to arrive at conclusions. For example, when determining an appropriate instream flow regime, certain assumptions are made about life stages of fish that are the most sensitive to variations in flow. If

the study of flows is based on a faulty assumption (*e.g.*, that minimum flows during spawning are the limiting factor, when, in fact, adequate juvenile rearing flows are more crucial), then the study may be fundamentally flawed. This demonstrates the need to clearly identify all relevant assumptions so that study results can be validated.

9. Conduct field test and/or sensitivity analysis in model selection -- The selection of models should include field testing of model results and/or sensitivity analysis, particularly if the model(s) are going to be used to develop and compare alternatives.

10. Validate study plans with independent, technically competent experts -- Technically competent and experienced people, who represent other than the applicant's interest, should perform scoping of study plan and decision making models, *e.g.* flow or habitat models. If agency personnel are not trained or experienced in the methods being recommended, then an independent peer review by an expert should be required for studies on critical resource issues.

11. Define study parameters in study plans -- Studies designed for comparative purposes should define all study parameters (*e.g.*, sample sizes, controls, treatments) and statistical or other methods to be used in making the comparisons. *A posteriori* design or just "professional opinion" are unacceptable (see B.5 above). Comparative studies should also have statistically reliable methods for comparison.

12. Provide standard checklist of acceptable study methods and protocols -- FERC should strive for consistent professional quality and standards in study plans and their execution between different EISs/EAs. To this end, FERC should develop a standard checklist of studies and acceptable study protocols for fish, water quality, wetlands, terrestrial and aquatic species and ecosystems, wildlife, threatened and endangered species, land management, aesthetics, recreation and cumulative effects, *etc.*

C. Selection of Consultants

Study plan scoping team selects and oversees consultant(s) -- To increase the objectivity of selected consultants, the study plan scoping team--not the applicant unilaterally--should be responsible for review of consultant qualifications, their selection and general oversight (see B.10).

D. Study Conclusions and Results

1. Provide complete access to data in reasonable format and time frame -- For example, underlying data and assumptions used in economic models, basin wide water use plans *etc.*, should be readily available to all parties as soon as they become available. Study results and conclusions based on confidential information should be disregarded.

2. Resource experts from agencies, tribes and NGOs should participate in data analysis and interpretation -- To ensure objective evaluation of study data, the applicant or applicant's consultant should provide data and assumptions used to analyze data to resource agencies, tribes and NGOs. Applicants should meet with experts to discuss how data were analyzed and the rationale for conclusions drawn prior to finalizing a study and using results in an application and/or an EA/EIS.

3. Develop and provide matrix of positive and negative effects -- A summary matrix showing the positive and negative effects of hydropower generation for all resource issues should be included in the application for purposes of selecting alternatives. The matrix should be developed and approved by the team of resource experts that analyzed and interpreted the study data.

E. <u>Post License Studies and Monitoring</u>

1. Design pre-license studies to facilitate post-licensing monitoring -- Pre-license study plans should be of adequate design to facilitate meaningful post license comparison studies to determine if mitigation and enhancement measures are effective.

2. Establish mitigation goals and monitoring program to determine if goals are being met -- The application should describe with specificity (quantify if possible) the resource goals that the applicant seeks attain with each proposed mitigation measure. The applicant should establish methods and a plan for monitoring the effectiveness of protection mitigation and enhancement measures. The monitoring plan should be approved by the study plan team.